

Grace quickly produces best-ever gravity map

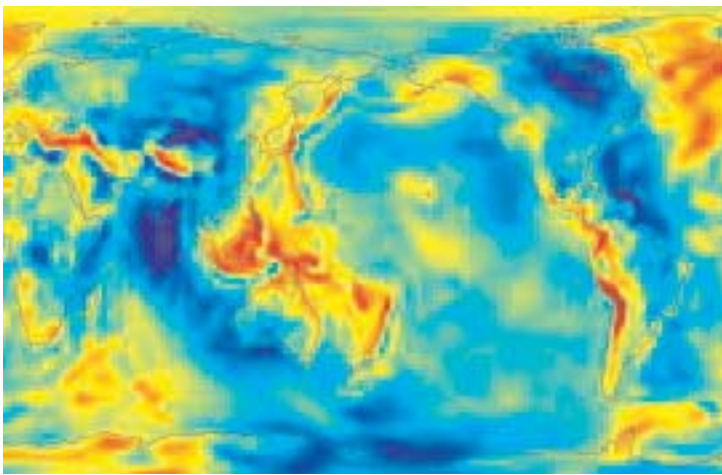
By Alan Buis

Previously, the long wavelength components of the gravity field determined from satellite tracking were limited to a resolution of approximately 700 kilometers. In contrast, Grace, by itself, has provided accurate gravity information with a resolution of 200 kilometers. Now, much more detail is clearly evident in the earth's geophysical features.

The Gravity Recovery and Climate Experiment (Grace) mission has released its first science product, the most accurate map yet of Earth's gravity field. Grace, which is managed by JPL, is the newest tool for scientists working to unlock secrets of ocean circulation and its effects on climate.

Created from 111 days of selected Grace data to help calibrate and validate the mission's instruments, this preliminary model improves knowledge of the gravity field so much it is being released to oceanographers now, months in advance of the scheduled start of routine Grace science operations. The data are expected to significantly improve our ability to understand ocean circulation, which strongly influences weather and climate.

Dr. Byron Tapley, Grace principal investigator at the University of Texas' Center for Space Research, called the new model a feast for oceanographers. "This initial model represents a major advancement in our knowledge of Earth's gravity field," Tapley said. "Pre-Grace models contained such large errors that many important features were obscured. Grace brings the true state of the oceans into much sharper focus, so we can better see ocean phenomenon that have a strong



impact on atmospheric weather patterns, fisheries and global climate change."

Grace is accomplishing that goal by providing a more precise definition of Earth's geoid, an imaginary surface defined only by Earth's gravity field, upon which Earth's ocean surfaces would lie if not disturbed by other forces such as ocean currents, winds and tides. The geoid height varies around the world by up to 200 meters (650 feet).

"I like to think of the geoid as science's equivalent of a carpenter's level. It tells us where horizontal is," Tapley said. "Grace will tell us the geoid with centimeter-level precision."

So why is knowing the geoid height so important? Dr. Lee-Lueng Fu, Topex/Poseidon and Jason project scientist at JPL, said, "The ocean's surface, while appearing flat, is actually covered with hills and valleys caused by currents, winds and tides, and also by variations in Earth's gravity field. Scientists want to separate out these gravitational effects, so they can improve the accuracy of satellite altimeters like Jason and Topex/Poseidon, which measure sea surface height, ocean heat storage and global ocean circulation. This will give us a better understanding of ocean circulation and how it affects climate."

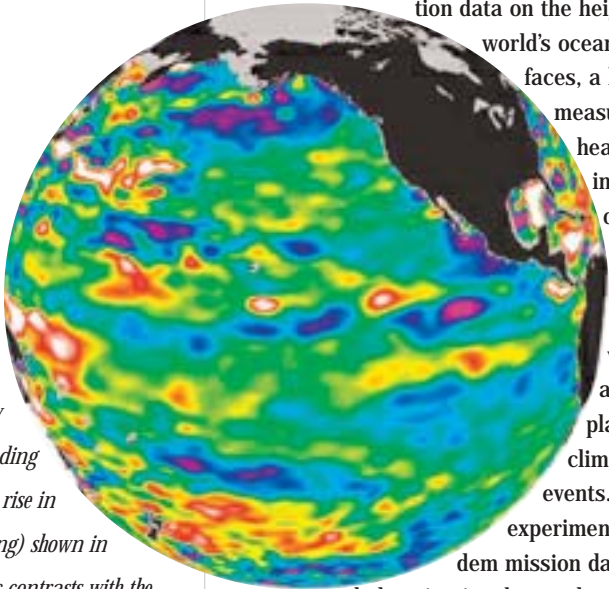
Dr. Michael Watkins, Grace project scientist at JPL, put improvements to Earth's gravity model into perspective. "Scientists have studied Earth's gravity for more than 30 years, using both satellite and ground measurements that were of uneven quality. Using just a few months of our globally uniform quality Grace data, we've already improved the accuracy of Earth's gravity model by a factor of between 10 and nearly 100, depending on the size of the gravity feature. In some locations, errors in geoid height based upon previous data were as much as 1 meter (3.3 feet). Now, we can reduce these errors to a centimeter (.4 inches) in some instances. That's progress."

Grace, a joint partnership between NASA and the German Aerospace Center, senses minute variations in gravitational pull from local changes in Earth's mass by precisely measuring, to a tenth of the width of a human hair, changes in the separation of two identical spacecraft following the same orbit approximately 220 kilometers (137 miles) apart. Grace will map the variations from month to month, following changes imposed by the seasons, weather patterns and short-term climate change.

Jason, Topex now work in tandem

By Alan Buis

Globe shows Jason data taken in a 10-day collection cycle ending July 15. The slight rise in sea levels (warming) shown in the western Pacific contrasts with the Bering Sea, Gulf of Alaska and U.S. west coast, where lower-than-normal sea-surface levels and cool ocean temperatures continue.



Take one well-seasoned oceanography satellite, the joint NASA/French Space Agency Topex/Poseidon, nearing its 11th year in orbit to study the world's ocean circulation and its effect on climate, mix in a fresh sibling satellite, Jason, and add a dash of ingenuity, and you get what scientists are calling the Jason-Topex/Poseidon tandem mission.

Since last September, when the older spacecraft was maneuvered into a tightly spaced orbit with Jason's, the two have engaged in a spicy experimental orbital tango. The spacecraft are serving up exceptionally high-resolution data on the height of the world's ocean surfaces, a key measure of heat storage in the ocean, which influences weather and future planetary climate events. The experimental tandem mission data will help scientists better detect and understand ocean currents, tides and eddies.

In a paper in the American Geophysical Union newsletter Eos, JPL's Dr. Lee-Lueng Fu, project scientist for the Jason and Topex/Poseidon missions, reports the mission is producing ocean surface topography data that reveal twice as many details as seen before.

"The Jason-Topex/Poseidon tandem mission doubles the resolution of ocean surface topography data, creating a continuous, simultaneous record of superior-quality radar measurements that will be used to map ocean surface current speed and direction, revealing important new information about these energetic swirls that are often too small to be resolved by a single satellite," Fu said. "Tandem mission data will allow scientists to revise ocean models, improving their ability to predict ocean currents in the future."

Fu said data from the mission are expected to improve our knowledge of ocean tides in coastal and other shallow-water regions, the changing transports of boundary currents, the horizontal transport of heat in the oceans and other climate-relevant properties. Also, it may validate theories of ocean turbulence caused by the Coriolis force, a phenomenon caused by Earth's rotation that deflects moving objects, such as water or air, to the right in the northern hemisphere and to the left in the southern hemisphere.

The data may provide valuable information about ocean eddies, a type of ocean "weather." These intermediate-sized (50 to 200 kilometers, or 30 to 120 miles across) ocean features generally last only a few months, yet play an important role in transporting ocean heat.

Eddies help create ocean weather patterns and transport nutrients from deep to shallower waters, where they enhance the growth of marine life.

Beyond Jason and the tandem mission, scientists are developing ways to achieve even higher resolution ocean measurements without flying multiple conventional altimeters. A Jason follow-on project, the Ocean Surface Topography Mission, may carry a Wide-Swath Ocean Altimeter. It would make wide-swath ocean surface height measurements using radar interferometry. The wide-swath instrument would provide a resolution of about 15 kilometers (9 miles) on the ocean surface, an eight-fold improvement in data resolution over the tandem mission.

With Jason's instruments fully calibrated, NASA and the French Space Agency released via the Internet Jason's first high-accuracy science data products. The products represent the final, validated records of Jason altimetry data and associated background information. Scientists around the world will use these records to develop products and perform investigations. The Jason science team has accumulated approximately 50 10-day cycles from the mission. These will be reprocessed over the next several months to create a single data record for each cycle. Future records will be made available to the public about 35 days after spacecraft collection. Specialized products are available to scientists.

For more information about Jason, visit <http://sealevel.jpl.nasa.gov/index.html>.



Eric Rignot

News Briefs



Researcher receives glacier honor

JPL geophysicist ERIC RIGNOT was recently honored by having an Antarctic glacier named for him.

Rignot, of the Interferometric Synthetic Aperture Radar Phenomenology and Product Verification Group in the Radar Science and Engineering Section 334, received the honor from the United States Board on Geographic Names. He was cited for his use of field and remotely sensed data to study Antarctic glacier mechanics from the 1990s to the present.

Student projects set for Mars rovers

While the ultimate field trip might someday be an actual journey to Mars, NASA is doing the next best thing—giving high school teams the opportunity to explore Mars by working on specific research projects during the Mars Exploration Rover missions, set to land in January 2004.

Two programs designed to involve students in exploration and discovery enable high school teams to experience a space mission from launch through landing. Teams from 13 schools are participating in the Athena Student Interns program. The Mars Exploration Student Data Team has 51 participating schools. Advance studies will prepare the students for participating in the mission when the two rovers, Spirit and Opportunity, begin exploring Mars.

Students and teachers in the Athena Student Interns program will each spend a week at JPL while the rovers are operating on Mars, and will work with mentors from the Mars science team and aid in data analysis. Before arriving at JPL, the students will learn about Mars' geology, the scientific and mechanical capabilities of the rovers, and the software needed to visualize the data that will be returned to Earth.

"More and more, we're trying to involve students directly in our missions, to give them real research opportunities," said MICHELLE VIOTTI, manager of NASA's Mars Public Engagement program at JPL.

The 51 teams participating in the Mars Exploration Student Data Team program will use data from JPL's Mars Global Surveyor and Mars Odyssey to help characterize aspects of Mars from the atmosphere to the surface that affect the rover missions. The Mars team will help compare orbital data to rover-collected data for "ground truthing," which means using ground-level observations to verify interpretations of remote observations.

Future explorers in the Athena Student Interns Program were selected from around the country. Athena is the name of the rovers' main instrument payload, the toolkit used to analyze rocks and other features on Mars.

The Mars Exploration Student Data teams are from 24 states plus the District of Columbia and an American school in Bolivia. The two programs will closely complement each other, just as both landed and orbital science teams work closely together in planetary missions.

JPL garners funding for proposals

NASA recently selected 15 industry, government and academic organizations to pursue 22 innovative propulsion technology research proposals that could revolutionize exploration and scientific study of the solar system. Four JPL-led proposals were selected for funding for NASA's In-Space Propulsion Technology Program.

The research will be conducted in five in-space propulsion technology areas: aerocapture; advanced chemical propulsion; solar electric propulsion; space-based tether propulsion; and solar sail technologies.

Three JPL-led studies, each led by principal investigators from Section 353, were selected in advanced chemical propulsion technology. "Lightweight, Foam Core Covers for Protection of Propellant Tanks and Propulsion Components" is led by MARC ADAMS. "Ultralight Tank Technology Development for In-Space Applications" is led by JOSEPH LEWIS, with LORIE GRIMES-LEDESMA as co-investigator. "Cryogenic Propulsion with Zero Boil-off Storage Applied to Outer Planetary Exploration" is led by CARL GUERNSEY, with RAY BAKER as co-investigator.

In the solar sails area, MICHAEL LOU of Section 350 is the principal investigator for "Structural Analysis and Synthesis Tools for Solar Sails," with HOUFEI FANG of Section 353 as co-investigator.

New stop signs posted

New stop signs have been installed on Explorer Road, both east and west bound, which will create a three-way stop at the intersection of Explorer and Mariner Roads near Building 277. JPL Security cautions staff to operate their vehicles in a safe and legal manner at this re-configured location.



Entries sought for MLK quilt

Employees and affiliates are invited to participate in a quilting project for JPL's Martin Luther King Jr. 2004 celebration on Lab. Designs should illustrate King's spirit and the 2004 theme, "Personal Responsibility in a Diverse World: Share in the Experience of Pride and Equality."

Submissions should be on a 6" x 6" sheet of white paper. Designs are due Monday, Aug. 25, to LAURA WHITE, mail stop 201-203. For more information, call her at ext. 3-5441.

Ethics training through Sept. 30

All JPL employees are required to complete Ethics training by Sept. 30. Numerous classes are still available, and are listed on the Daily Planet (<http://dailyplanet>).

All classes last one hour. Registration is not required; just remember to bring your badge, which is scanned to verify attendance.

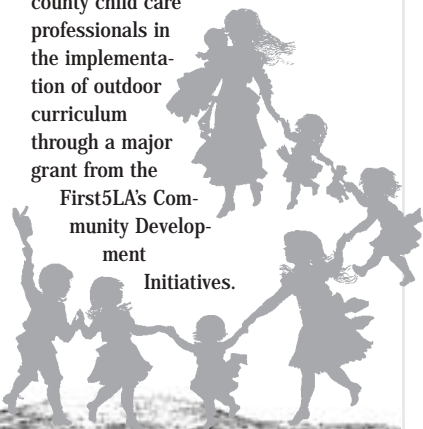
Online training is also available at the Ethics website (<http://ethics>).

CEC receives re-accreditation

The Child Educational Center (CEC) has earned its re-accreditation from the National Association for the Education of Young Children (NAEYC), the nation's leading organization of early childhood professionals.

"We're proud to be accredited by NAEYC, and recognized for our commitment to reaching the highest professional standards," said Executive Director ELYSSA NELSON. "The accreditation lets families in our community know that children in our program are getting the best care and early learning experiences."

The CEC provides quality child care to more than 600 infants, toddlers, pre-school and school-age children of JPL and Caltech families as well as families from the surrounding community. The CEC also serves as an observation and practicum site for college students in the early childhood education field, and will soon be educating Los Angeles county child care professionals in the implementation of outdoor curriculum through a major grant from the First5LA's Community Development Initiatives.



Special Events Calendar

Ongoing Support Groups

Alcoholics Anonymous—Meetings are available. Call the Employee Assistance Program at ext. 4-3680 for time and location.

Caregivers Support Group—Meets the first Thursday of the month at noon in Building 167-111 (The Wellness Place). For more information, call the Employee Assistance Program at ext. 4-3680.

Codependents Anonymous—Meeting at noon every Wednesday. Call Occupational Health Services at ext. 4-3319.

Gay, Lesbian and Bisexual Group—Meets the first Friday and third Thursday of the month at noon in Building 111-117. Call the Employee Assistance Program at ext. 4-3680 or Randy Herrera at ext. 3-0664.

Parents Group for Children With Special Needs—Meets the second Thursday of the month at noon in the Wellness Place, Building 167-111.

Working Parents Support Group—Meets the third Thursday of the month at noon in Building 167-111 (The Wellness Place). For more information, call the Employee Assistance Program at ext. 4-3680.

Tuesday, August 5

ACW Career Panel—Line management careers is the topic for this discussion, continuing the Advisory Council for Women's summer series. Join scheduled speakers Mary Bothwell (Section 380), Amanda Beckman (266), Dr. Andrea Donnellan (320), Cindy Kingery (510) and Leslie Livesay (340) at noon in von Kármán Auditorium.

"Ask the Experts About E-Mail"—At 2 p.m. in Building 180-101, Virinder Dhillon and Rebecca Martinez will discuss how JPL e-mail can now be accessed from a Web browser when you are on travel or away from your office computer. See a demo of this new feature and find out how it can facilitate your work. The talk is sponsored by Institutional Computing and Information Services.

JPL Gamers Club—Meeting at noon in Building 301-227.

JPL Genealogy Club—Meeting at noon in Building 301-271.

Wednesday, August 6

Associated Retirees of JPL/Caltech—Meeting at 10 a.m. at the Caltech Credit Union, 528 Foothill Blvd., La Cañada.

Thursday, August 7

JPL Gun Club—Meeting at noon in Building 183-328.

Tuesday, August 12

JPL Stamp Club—Meeting at noon in Building 183-328.

Wednesday, August 13

JPL Amateur Radio Club—Meeting at noon in Building 238-543.

JPL Toastmasters Club—Meeting at 5 p.m. in the 167 conference room. Call Debbie Llata at ext. 3-3690 for information.

"Succeed Over Stress"—This class offered by the Employee Assistance Program is designed to provide an educational and experiential opportunity on how to manage stress effectively and maximize coping skills during periods of uncertainty and high work demand. It will be held from 9 a.m. to noon in Trailer 1707. To enroll, go to the Education and Training website (<http://hr.jpl.nasa.gov/et>), choose the Professional Development category, search for "Succeed Over Stress," and complete enrollment information. For more information, call the Employee Assistance Program at ext. 4-3680.

Thursday, August 14

ACW Career Panel—The final in a series of five panels sponsored by the Advisory Council for Women, held at noon in von Kármán Auditorium, will cover science careers at JPL. Join scheduled participants Dr. Claudia Alexander (4033), Dr. Joy Crisp (3223), Dr. Candice Hansen (3222), Dr. Paulett Liewer (326) and Dr. Carol Raymond (3223). Come and listen to their stories of career opportunities and advancement, both lateral and upward. Prepared questions and questions from the audience will be answered.

By Lisa Townsend

JPL's Galaxy Evolution Explorer has beamed back revealing images of hundreds of galaxies to expectant astronomers, providing the first batch of data on star formation that they had hoped for.

The recent ultraviolet color images from the orbiting space telescope were taken between June 7 and June 23, 2003 and are available online at

<http://www.galex.caltech.edu> and <http://photojournal.jpl.nasa.gov/new>.

"The images clearly show active star formation in nearby galaxies, and large numbers of distant ultraviolet galaxies undergoing starbursts," said Principal Investigator Dr. Christopher Martin, an astrophysics professor at Caltech. "This demonstrates that the Galaxy Evolution Explorer will be a powerful tool for studying star formation in galaxies near and far."

"These stunning images provide us with valuable information needed to advance our knowledge of how galaxies, like our own Milky Way, evolve and transform," said Project Manager Dr. James Fanson. "Pictures of the ultraviolet sky reveal objects we could never have seen with visible light alone."

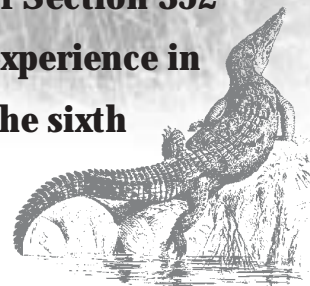
The Galaxy Evolution Explorer launched on April 28, 2003. Its goal is to map the celestial sky in the ultraviolet and determine the history of star formation in the universe over the last 10 billion years.



Rocket Scientist

SURVIVES AMAZON

JPL's own Dave Johnson of Section 352 shared with Universe his experience in "Survivor: the Amazon," the sixth in the Survivor series.



By Angela McGahan

CBS's Survivor series has had a very successful run in the newly spawned reality show market. The show has gone to various remote areas of the world where 16 perfect strangers are left to fend for themselves for 39 days, and in the process they try to outwit, outplay and outlast their teammates. The winner, or "sole survivor," walks away with a prize of \$1 million, but everyone walks away with amazing stories.

How did you get the idea to be part of a reality show, and not just any reality show, but the mother of all reality shows, Survivor?

From the physical challenges to the constant mental strain, the Survivor concept is fantastic in every aspect. I watched the first season while on co-op (the extended internship program that many of the employees go through before becoming full time) with JPL and was immediately hooked.

That summer on a climbing trip in Joshua Tree, some friends and I shot my video for the Survivor 2 audition. With school in full force I didn't watch the show until I was called by CBS last September to fill a slot on the Amazon season. It was more a matter of luck and fortunate timing that landed me on "the mother of all reality shows."

How long did you spend in the Amazon?

The show is filmed for 39 days. As the first member of the jury, or the ninth slot, I spent a total of 24 days surviving the jungle and my fellow contestants. We didn't waste much time outside of the show. In order to maintain the anonymity of each contestant before the cameras start

rolling, we quickly transitioned from traveling into the game. Similarly, there was no need for us to be in Brazil any longer than the show lasted; we left the day after the final tribal council. Dreams of a Double-Double and chocolate shake produced no complaints.

Was it really as primitive and dangerous as we are led to believe? Were there really alligators and piranha everywhere?

The Amazon is a harsh habitat. We ate piranha more than any other fish. Jaguar sightings forced us to keep a nightly fire watch. Infections occurred extremely easily due to the moist and hot conditions ... I would have to say leaving 20-inch knives around inexperienced, urban-raised folk was scarily entertaining at times and probably more dangerous than any of the wildlife.

What was the hardest part about living in the jungle for a month?

For me, the social dynamics were the most difficult part of the show. Certainly the physical discomforts taxed the body and mind, but the constant stress of not knowing who to trust, who was hiding information from you, dealing with personality conflicts that arose due to short tempers, and intimate living interactions, were always a burden. To awaken with a smile after sleeping on bumpy logs with bugs crawling in your mouth, ears and eyes all night is a huge challenge.

Did you make any long-lasting friendships with any of your co-survivors?

Very much so. After sharing such an amazing experience, it would be impossible not to feel some greater connection. For the most part, I think that everybody realized what happened in the game wasn't necessarily indicative to their

friendships outside of the Amazon. You can quickly forget how annoyingly bad somebody smells or snores once a shower and bed are in the forecast.

What was your best day?

Day 10. From catching a substantial fish that morning to coming from behind to win the Coke challenge, everything seemed to come together that day. Socially, we had a pecking order established that would keep the core group intact for at least two more tribal councils. Plus, we had a functional refrigerator in the middle of a jungle to keep beverages chilled. Certainly nothing better than a cold one on a malnourished hot day.

What was your worst day?

Day 9. For the first 13 days the teams were split up by gender. The dudes had lost four out of five challenges. Morale was low and the realization that we were being embarrassed on national television was running tensions thick. We had not caught any significant food and we hadn't fully adapted to our environment. Around this time, Roger decided to sleep without pants, which made the mornings that much more painful.

What was the funniest thing that happened?

There were plenty of unseen funny moments. Some highlights include:

- Daniel almost lighting Tribal Council on fire after spilling his torch all over the entrance.
- Any of the many tumbles and antics the camera/sound/producer folk took while attempting to get the best shot.
- Endless nights of haikus and limericks about the female tribe with Alex and Rob.

Continued on page 4

Being Dave Johnson



Age: 40
Hometown: Arcadia
Luxury Items: Papaya and spoon
Music: Reggae
Marital Status: Single but attached
Popularity Rating: 100%

Some days it's not easy to be Dave Johnson. David L. Johnson, that is.

This Dave Johnson, or DJ, as he is known among his co-workers, works in JPL's Shipping and Receiving Section 2726. "I don't need to go to the Amazon," he says. "I got my own jungle right here."

Seems folks are calling him to congratulate him on his Survivor experience. Even the editor of NASA Watch called. DJ takes the confusion in stride. "I just go with it for a couple of minutes, and then I tell them that I am not that Dave Johnson."

To complicate matters, this is not DJ's first brush with confusion. In 1992 Dave Johnson won the bronze medal in the decathlon at the Barcelona Olympic Games. "My phone was ringing off the hook," DJ says. "All kinds of folks were calling me to give me best wishes and stuff. I guess he trained close to where I was living at the time.

"I would like to know if a Dave Johnson has won the lottery lately," he adds with a hearty laugh. "I'd like to get in on that."



JPL'S ONLINE NEWS SOURCE

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View this and previous issues of Universe at <http://universe.jpl.nasa.gov>

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All housing and vehicle advertisements require that the qualifying person(s) placing the ad be listed as an owner on the ownership documents.

How did you get to be billed as the “Rocket Scientist?”

I had originally listed my profession as an engineer working for the Jet Propulsion Laboratory, NASA. When interviewing, I was constantly asked if I was a rocket scientist since I worked for NASA in a technical field. I figured that a “rocket scientist” by definition was a vague enough term that I could please the CBS producers and get away with it. Plus, it made a far better selling point for me as an individual to get on the show.

Do you think you broke through certain stereotypes of “Rocket Scientist” by being on the show?

I had three goals going into the show. I wanted to give it my best, have fun, and be myself. For the most part, I think I fulfilled all those criteria. If in that process I “broke through stereotypes,” I hope I portrayed those in a positive light.

How are you dealing with your newfound celebrity status, both in your personal life and at work?

I don't consider myself a celebrity. I think I was lucky to be at the right place at the right time and was fortunate to make the most out of that opportunity. There is a bit of face recognition, but not enough that I feel my personal life has been invaded.

Passings

CLINTON GENE LOWELL, 73, a retired quality control engineer, died May 28. Lowell worked at JPL for five years as a contractor before becoming an employee in 1980. He retired in 1995. Lowell is survived by his wife, Barbara, son Rod, daughter Jennifer and four grandchildren. He was buried at Oakdale Cemetery in Glendora.

PHIL NEUHAUSER, 73, a retired staff specialist in the former Public Affairs Office, died July 23. Neuhauser joined JPL in 1962 and later served as supervisor of the Conference and Audiovisual Facilities Group; supervisor of the Audiovisual Communications Office in Public Affairs; and manager of the Audiovisual and Education Office. Neuhauser retired in 1995. From 1999 to 2001, he served as president of the Associated Retirees of Caltech/JPL. He is survived by his wife, Mary, and three adult children. Memorial services are scheduled for Sunday, Aug. 3, at 4 p.m at San Fernando Mortuary, 1101 N. Maclay, San Fernando.



Phil Neuhsuser

Classifieds

For Sale

AIR CONDITIONER, room unit, Quasar, 11000 BTU, 2.5 yrs. old, \$100; WASHER & DRYER, Maytag, gd. cond., \$150/both. 626/449-9885.

BEDS: king size with frame, box and pillow-top mattress, <1 yr. old, nearly unused, \$200/obo; New England antique spool bed frame, includes head & foot boards, sides and slats, \$200/obo. 952-8163.

CAMERA, Nikon Coolpix 5700, 5.0 megapixel, 8x optical/4x digital zoom, like new, \$850 + free MBE-5700 battery pack. 714/952-3169 or kljourney@yahoo.com, Ken.

COMPUTER, Compaq desktop with 15" monitor, Intel 400 MHz, 128 MB RAM, new 56K modem, complete set for \$325. 951-4990, Nik.

COMPUTER DESK, lots of storage space and place for printer / CPU, \$60. 243-8255.

COMPUTER POWER CONTROL CENTER, 5 power switches + 1 master switch, 5 surge-protected outlets + 2 modem/fax/phone jacks, new, \$20; ORGAN, Yamaha 415 electronic, 13 pedals, 3 keyboards, 144 rhythm patterns, \$2,000. 790-3899.

DARTBOARD, w/ darts, good condition, \$20. 626/303-0534.

DIAMOND, 1.07 carat, G color, VS1 clarity, 61 depth, 61 table, GIA certification, JPL employee, \$6,390. 626/744-9052.

DINING ROOM SET, table, leaf and 6 upholstered chairs, \$125. 626/447-6423.

DINING SET, slate blue, 2 lg. oval tablecloths, 18 placemats, 18 napkins w/rings, good cond., \$50/all; SHOVELS, \$2/ea. 626/357-8210.

DINNER JACKET, men's formal, sz. 40 long, burgundy, for cruises or any formal occasion, like new, \$100 value, sell \$25/obo. 626/793-1895, Albert.

FURNITURE: sectional, high back with 2 reclining seats, excellent condition, was \$1,500, now \$500; rocker chairs, was \$400/ea., now \$100/ea. 626/850-4378.

FURNITURE & MISC. ITEMS: black leather chair, \$150 for pair; stainless steel tubular leather chair, \$150 for pair; loveseat, \$60; entertainment center, \$75; 39" octagonal glass cocktail table, \$100; Maytag washer (a9800) and gas dryer (dg 9800). \$600; Echo pb1000 blower, \$100; McCulloch 16" electric chainsaw, \$40; 60 gal. acrylic aquarium

w/stand, \$180; fertilizer spreader, \$15; Sanus speaker stands, \$80/pair. 246-2319.

HOME GYM, Body-Solid EXM-1500S, see at www.bodysolid.com, \$350. 957-5382.

KITCHEN ITEMS: glazed, porcelain mixing bowls, 8 1/2" green \$8; 10 1/2" yellow \$12; long, embossed silver-plated compote tray, 11 x 4 x 1," exc. cond., \$10; covered, porcelain vegetable dish w/handles, \$9; lg., carved hardwood pod for hors d'oeuvres, fruits, etc., 16 x 5 x 1 1/2", \$10; Farberware, stainless steel, deep mixing bowl w/plastic cover, 7 1/2" diameter, \$6. 626/793-1895, Albert.

LIGHT FIXTURES, fluorescent, 2' x 4', drop-in, tubes not included, \$15/ea. 626/794-2237.

LOFT BED with desk, bookshelves, and mattress, Ikea, like-new condition, over \$700 new, matching dresser also available, best offer. 714/524-5367.

MERGING HOUSEHOLDS, Super capacity Maytag washer/gas dryer, 1.5 yrs old, like new, \$700; Sealy mattress set: CA King, firm, <1 yr old, excellent condition, \$1,400 new, sell \$700; 5-yr.-old version of same CA King mattresses, \$300. 626/794-5924.

MOVING SALE: Jogging stroller, \$50; infant car seat and stroller, Graco comb., 3 yrs. old, \$75; infant bathtub, \$5; bouncy chair w/music, \$10; pair spkr. stands, wooden, 18", \$20. 626/795-5126, Michelle, leave msg.

MOVING SALE: TV, 61" Sony XBR exc. cond., \$1.75K; upright piano, Starr 1940sm, \$200; sleeper sofa (queen, 4 yrs. old, orig. \$1,400), \$300; washer/dryer, \$325, china, antique Noritake, \$500; dining table/chairs, antique mahogany, \$475; bedrm set, solid walnut, incl. armoire, nightstands, vanity/drawers, mirror, \$500; desk, steel frame, \$35; clock, Italian antique repro, \$200; art work. 790-8990.

MOVING SALE: office desks, 2, \$50/each; 6-foot bookshelves, 2, \$25 each; office chairs, 4, \$10/each; tables, 6-foot, heavy duty folding, 4, \$15/each; folding dinnette table, 42-inch round, with 4 chairs, \$50; dining table, 6-foot (with extension) oak, claw-foot, with 6 chairs, \$200; coffee table, oak & glass, + 2 side tables + hall table, \$100. 626/963-7612.

MOVING SALE: stereo cabinet, 4-foot oak & glass, slight damage, \$20; office copier, Mita dc2055, heavy, \$50; electric concrete mixer, full sack, unused, \$100; poly lawn roller, large water fillable, unused, \$50; approx 34 sheets 4 x 8 siding, mostly perfect, \$250. 626/963-7612.

MOVING SALE: nearly-new furniture in very good condition; all prices are obo; TV/stereo cabinet, large teak, \$850; bookcases, 2 Bonde style from Ikea, cherry color, 14 x 86" & 28 x 86", \$275; end tables, 2 Indonesian teak with iron details, \$130; tables, small bedside, wood with drawer & shelf, \$225. 323/664-2672.

POOL, 4 ft. x 10 ft. x 15 ft., oval above-ground, in the box, never used, includes filter, ladder, skimmer, test kit and more, \$850. 269-2672.

POOL TABLE, Delta Billiards, w/ accessories, track lighting and corner unit/cue rack, \$900. 626/303-0534.

PORT REPLICATOR for IBM Thinkpad, works with T20, T21, A20, A21, or X, R series, like new, \$85; CARD SHUFFLER, Johnson, collectible, all-metal construction with the exception of the friction wheels which drive the cards and the carved-wood dowel handles; stands ~6" handle-high, and ~9" by 6", flanges and handle inclusive, \$35; DIET TAPES, Jenny Craig, set of 14, \$50. 790-3899.

STEREO EQUIPMENT, Bang & Olufsen amp/tuner/CD/cassette/2spkrs, \$450; 2 pair JBL spkrs, \$85/pair; cabinet \$45, Phillips TV 27" with stand, \$100; several more spkrs, several antique sets, various high-end components. 790-8990.

TABLE, glass top, 1/2" thick x 8' x 4', perfect for large family dining, \$200. 731-0470.

WASHER, automatic, Whirlpool LA8800XT, 3cf, direct drive, 9 wash cycles, 5 temp. combs., "infinite" H2O level selections, 3 wash agitation speeds, 2 spin speeds, extra rinse option, good cond., \$100 obo. 323/208-2329.

WASHER AND DRYER, electric, good condition, \$125/both. 626/445-1013.

Vehicles / Accessories

'93 ACURA Integra GS hatchback, good cond., 97K mi. red, 5 spd., a/c, moonroof, new tires, belts, brakes, H20 pump, orig. owner, \$4,200. 626/794-9358.

'95 CADILLAC Eldorado coupe, 2 dr., loaded, blk, 61K, leather interior, sunroof, exc. condition, original owner, \$12,000/obo. 790-0364.

'98 FORD Crown Victoria LX, 4.6L V8, 4 door, white/beige, leather, CD, keyless entry (remote and keypad), cruise, power everything, 100K, split front seats, good cond., \$11,500. 822-6465, Ryan or code3media@crownvic.net.

'89 FORD Probe, GT Hatchback 2 dr., 4-cyl. 2.2L turbo, 5 spd. manual, front wheel drive,

My first priority after the show has always been to JPL. I make large efforts to keep show stuff outside of the work environment. I would much rather be known at the Lab for technical expertise than as a reality television contestant.

Have you gotten any flack from your present co-workers about doing something like this?

Much of the enjoyment has been through sharing the experience with friends and coworkers. If embarrassing moments and mistakes help bring people together, I seem to have provided cause for much celebration. I can't complain too much; I am sure I would be tossing out humorous “flack” if one of my colleagues found themselves in a similar situation.

What did you learn from the experience?

Two things. One, don't hold hands with other females on national television when you have a girlfriend back home. They get mad regardless of motive. Two, brush and floss your teeth regularly. Bad things happen if, hypothetically speaking of course, you neglect or are forced into improper dental care. If you are really crazy, mouthwash every now and then is a good idea.

What's next for you?

I have a 10 a.m. meeting I need to attend. 🦋

150,000 miles, a/c needs Freon, power steering/brakes/windows/door locks/seat/mirrors, tilt wheel, cruise control, am/fm/cassette, suspension adjustment (sport/regular/soft), dashboard computer display mpg/temp/tripset, etc. good gas mileage, great condition, originally \$3,000, now \$2,500. 626/395-9569 or johnboy2@prodigy.net.

'74 FORD van, 4 x 4, E300 Pathfinder SWB rebuilt engine/transmission 30K miles ago, all 4x4, works well, \$2,000. 952-6181.

'99 HARLEY-DAVIDSON Fatboy by Ultra, custom paint (blk w/ drk blue flames), 113 CI, S&S engine, low mileage, extra chrome, excellent condition, fast, \$14,800. 909/471-0441.

'93 HONDA Civic DX, 4 dr., 5 spd., 1 owner, vg cond., maint. records, low mileage (75K), a/c, am/fm/cass., power steering, airbag, new tires, blue, \$4,000. 626/574-5733.

'88 HONDA Accord LX, 5 spd, 4 dr, 4 cyl, a/c, pwr. windows/locks, Blaupunkt tape, beige, 213K mi., \$1,700/obo. 626/795-5126, Michelle/Tyson, leave msg.

HONDA Trail 70 motorcycle, kept in storage, may need work, \$250. 626/798-2012.

'94 KAWASAKI Jet Ski, 750 SX, low usage, exc. cond., includes hand cart/stand and towable cover, \$1,000/obo. 626/287-4449.

'95 NISSAN Pathfinder XE, 4 x 4, V6, loaded, exc., 4 new tires, LoJack, tow, full power, 135K miles, \$5,900, 909/596-9007.

'93 NISSAN Sentra, silver/gray, a/c, cc, 4 cyl, auto with o/d, 118K mi., \$3,000. 626/359-6570.

'89 NISSAN 240SX hatchback, manual, burgundy, pinstriped, runs like a dream, great shape for its year and model, typical wear on driver's seatback, original owner, garaged, regularly serviced, all paperwork, exc. air, tires, brakes, clutch, and new Sony removable faceplate AM/FM tape, sports car look and feel at a bargain price, selling reluctantly for medical reasons only, 70K, \$2,500/firm. 626/405-2323 or ragdoll9@pacbell.net.

'98 TOYOTA Corolla LE, beige, automatic transmission, 74K mi., power steering/brakes/door locks/windows, a/c, rear defroster, cruise control, stereo AM/FM/cassette, tinted glass, air bags, exc. cond., factory warranty, \$9,300. 714/843-5211.

'93 TOYOTA 4Runner SR5, V6, 2 wheel drive, automatic, power windows, sun roof, roof rack, running boards, towing pkg, new brakes, 115K mi., very good cond., \$5,825/obo. 626/449-9885.

'98 VW Passat GLS wagon, sporty 1.8L turbo engine, 73K miles, excellent condition, light blue color with black leather seats, automatic transmission with tip-tronic shifting option (like manual), moon roof, power windows, good mpg, original owner, \$11,000. 502-1282.

'86 YAMAHA Route 66 250cc motorcycle, 5K mi., needs minor repairs, new parts included, \$1,200/obo. 626/795-5126, Michelle/Tyson, leave msg.

Wanted

GUEST HOUSE or APT., retired LCHS counselor and soon-to-be-retired 40-year JPLer, until early January 2004. 790-6313.

LONGBOARDS, 8' to 9' range, fiberglass, used, 790-2272.

ROOMATE(S) to share apt. or house, male preferred, non-smoking. 281-2494, Alex.

SPACE INFORMATION/memorabilia from U.S. & other countries, past & present, for personal use. 790-8523, Marc Rayman.

VOLLEYBALL PLAYERS, coed, no beginners please, Tuesday nights 8 to 10 at Eagle Rock High School, \$4/night. 956-1744, Barbara.

Free

CAT, 8 years old, Balinese, male, to good home, very sweet, ok with other cats and children. 244-8729.

CLEAN FILL DIRT, 10 cu yds avail., haul as little or as much as you like, near Los Robles/Jackson, Pasadena. 626/791-3103.

VERTICAL BLINDS for vinyl patio door to fit 94" wide x 84" high opening, includes all mounting hardware. 246-2319.

Lost & Found

Found: Gray and white hat in Bldg. 111 week of July 14, pickup in Bldg. 111-125.

For Rent

ALTADENA, 3 bd, 2 ba view home, minutes from JPL, borders Angeles Nat'l Forest & trails; furnished, includes refrig, stove, extra freezer, washer/drier; spacious kitchen/living/dining areas, fireplace, 2-car garage, courtyard, shaded patio, fruit trees, English garden; quiet neighborhood, avail. 9/15; 1-year lease required, \$2,200 + util. 626/798-3235, Lori.

ARCADIA apt., 2 bd. + den, 1 ba., garage, remodeled, refrigerator/washer/dryer in unit, a/c, dishwasher, spacious, walking distance to shops, exc. neighborhood, no pets, water/gardener/trash included, \$1,350. 626/576-7333.

E. ALTADENA home for lease, quiet & lovely area near Farnsworth Park, spacious 3 bd., 2 ba., 2 fireplaces, oversized den, kitchen & baths have Bolivar slate floors & tile, kitchen opens to den for great entertaining, cozy backyard, \$2,500. 323/684-2508, Oren.

MONTROSE townhome, 2 large bd., 2 full ba., 2-car garage, gated community, top-rated school, near JPL campus, \$1,500. 510-353-0900, x222.

N. SAN GABRIEL, 3 bd. + 1.5 ba., house, 2-car garage, patio, exc. neighborhood, no pets, \$1,700 includes gardener service, on approved credit. 626/458-3852.

PASADENA, upstairs apt., 1 bd., utilities incl., \$800 + \$500 deposit. 626/798-0069.

PASADENA, townhome-style apartments, 2 bd., 1.5 ba., patio, dishwasher, central a/c, new carpet & floors, laundry, parking, furn. \$1,375, unfurn. \$1,295. 626/429-3677.

PASADENA, spacious 2-story condo, 3 bd, 2.5 ba., prestigious community, beaut. inter., bright ktch., prof. landscape, ctrl. air & heat, close to shop., cozy LR w/FP, end unit, frml. DR, hdwd. flrs., immac. cond., close to schls. \$1,750. 626/396-9024.

PASADENA house in a new, quiet and community with area, pool, and Jacuzzi; two-story, spacious 3 bd., 2.5 ba. with large landscaped backyard, fireplace, balcony, central air/heat, refrigerator, washer/dryer, and two-car garage; few minutes from JPL or Caltech; near schools, shopping and Hastings Ranch theaters; \$2,300. 626/797-0298, Sami.

SAN MARINO house, 3 bd., 2 ba., 2-car garage with automatic opener, newly painted, remodeled kitchen, dishwasher, a/c, laundry hookups, fireplace, spacious family rm. overlooking yard, no pets, exc. neighborhood and school district, \$3,000. 626/576-7333.

SUNLAND, fully furnished room in condo, share kitchen/bath/laundry, garage parking, a/c, fireplace, pool, Jacuzzi, tennis court; 10 miles to JPL, female preferred, non-smoking; \$500, includes utilities; \$400 security deposit; references. 352-3112.

TUJUNGA, Craftsman style house, 1 bd., 1 ba., quiet family neighborhood, pvt. driveway, front/back yard, suitable for 1-2 dogs, W&D hook-up, new roof, 15 min/JPL, 210 fwy & shopping close by, \$750 + sec. 213/810-3430 or 951-8552, Felicia, 9 a.m.-10 p.m.

TUJUNGA, 2 bd., 1 ba., 2-car garage, quiet st., 15 min/JPL, 210 fwy & shopping closeby, \$1,200 + sec. 249-8528.

Vacation Rentals

BALBOA ISLAND, cute beach apt., fully furnished 2 bd., 1 ba., patio, washer/dryer, parking, sleeps 5, steps to bay, \$1,500/week. 626/429-3677.

BIG BEAR LAKEFRONT, luxury town home, 2 decks, tennis, pool/spa, beautiful master bd. suite, sleeps 6. 949/786-6548.

HAWAII, Maui condo, NW coast, ocean front view, 25 ft. fr. surf, 1 bd, w/loft, compl. furn. phone, color TV, VCR, microwave, d/w, pool, priv. lanai, slps 4, laundry fac., Low Season rate \$105/nite/2, High Season rate \$120/nite/2, \$15/nite/add'l person. 949/348-8047, or jackandrandy@cox.net.

LAS VEGAS, new penthouse condo, 2 bd., 2 ba. w/jetted tub, avail. 9/10-9/17/03, 2-night minimum. 626/334-1408.

MAMMOTH, Snowcreek, 2 bd., 2 ba., + loft, sleeps 6-8, fully equipped kitchen incl. microwave, D/W, cable TV, VCR, phone, balcony w/view to mtns., Jacuzzi, sauna, streams, fishponds, close to Mammoth Creek, JPL discount. 626/798-9222, 626/794-0455 or valerie@gps.caltech.edu.

OCEANSIDE condo, fully furn., 2 bd., 2 ba., fireplace, full kitch., quiet, relaxing, beautiful beachside setting; BBQ, pool, spa, game rm., great ocean view; easy walk to pier and restaurants, sleeps 8; avail. weekly or monthly. 909/981-7492, Darlene or dhauge@yahoo.com.

OCEANSIDE, on the sand, charming 1 bd. condo, panoramic view, walk to pier & harbor, pool/spa, game rm., sleeps 4. 949/786-6548.

2001 PACE ARROW 34-foot RV, queen bed, sofa bed and dinette bed; monthly rentals only, \$4,000 in advance + \$1,000 security deposit; you pay insurance and gas; JPL employees only; no smoking or pets. tahoe mike@earthlink.net, 530/525-7334.

RIO DE JANEIRO, lovely apartment (condo) overlooking Copacabana beach, sleeps up to 4, near major hotels and attractions, \$80/night. 626/304-0688 or 626/303-1616.

ROSARITO BEACH condo, 2 bd., 2 ba., ocean view, pool, tennis, short walk to beach on priv. rd., 18-hole golf course 6 mi. away, priv. secure parking. 626/794-3906.